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A CASE OF EMBOLISM, WITH REMARKS.

Read before the Montgomery Medical Society, by SAM'L W. SEELEY, M.D.

MR. PRESIDENT AND FELLOW MEMBERS OF THE MONTGOMERY MEDICAL AND SURGICAL SOCIETY,—I desire to present to you to-night a heart, with the fibrinous clots found in it after death. I will give you a record of the case, and propose, if it be the will of the Society, to read to you an essay suggested by it, and prepared for the present occasion.

CASE.—J. W., freedman, aged about 45, was admitted into the Freedmen's Hospital of this city on Feb. 15th, 1868, with general anasarca and ascites, and distinct bruit over the heart. He was treated with diuretics and hydragogue cathartics, digitalis being a frequent ingredient in the former. He improved, and became apparently well, though the cardiac bruit remained, and on March 17th was at his own request discharged. I expected, however, that he would return again with like symptoms.

On the 7th of October he was re-admitted, having, during the summer, worked a good deal as a farm hand. He was at this time, however, in worse condition than before. The anasarca and ascites were greater, and he complained of a great deal of pain in the abdomen, and some about the precordial region. The cardiac bruit as before, not loud, but still easily heard, and as though it was at some distance from the ear. He was treated as before, sometimes becoming better, and sometimes worse, until, on Jan. 6th, 1869, the pain in the abdomen becoming very severe, and the dropsy increasing, I bled him to about $\frac{3}{4}$ viij. from the arm, and put him on a regular allowance of farinaceous diet, and the recumbent posture the greater part of the time. He seemed much improved immediately after the bleeding, said he had not felt so well since he came into the hospital; this condition lasted, however, but a few days. The pain in the abdomen was referred to the

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lower part of it, and was very severe. Whenever he arose from bed, he supported it with both hands, and walked with exceeding caution, lest he should increase the pain by jarring.

His pulse had always been very feeble, though he was quite a robust man. On the morning of Jan. 14th, 1869, I found him apparently slowly dying. Intellect perfectly clear; death taking place by the heart. He died at 6 o'clock that evening.

The next day I made a *post-mortem* examination. The heart was a little enlarged, and rather softer than natural. There was a dense, very tough, evidently old mass of white fibrine occupying both ventricles—very firmly attached by fine filaments amongst the columnæ carneæ, extending into the auricle on one side, and into the aorta on the other, as far as, and a little way into the left subclavian artery. Its attachment between the columnæ carneæ by those slender fibres was very firm, requiring a good deal of management and dexterity to remove them, even after the cavities of the heart were laid open.

The portion within the artery was unattached to its walls, not so tough as the other, and perfectly washed of all coloring matter. The under side of the long apron of the mitral valve was covered with a thin layer of lymph, and the edges of both the mitral and tricuspid valves were somewhat thickened. The pulmonary and aortic valves were both normal.

The cavity of the abdomen contained a large quantity of fluid, but no flakes of lymph or other signs of inflammation.

I was obliged to rest in my dissections from fatigue, not feeling well, and having no assistance. I had the burial of the cadaver deferred, so as to give me a chance for further dissection the next day, but I was too unwell to pursue the examination. I regret it very much, as I have strong suspicions that I should have found a portion of the fibrinous mass had been detached and carried forward into the aorta, and probably lodged near its bifurcation, giving rise to the severe pains in the lower part of the abdomen. At least, I found no cause for it

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in the condition of the bowels or peritoneum.

Quære! Were these coagula of fibrine the result of an old endocarditis, which had remained there, impairing, but not stopping the circulation until a fresh attack, throwing out fresh exudation, had overpowered the organ?

ARTERIAL EMBOLISM AND HEART CLOT.

The literature of this subject dates back but a few years. The standard works on the practice of medicine and surgery make no mention of it to this day.

The teachers in our great medical schools have, until quite recently, passed it by without mention, so that it is not strange that many intelligent members of our profession should be unacquainted with its pathology. I had never heard of it myself until a few years ago, when having lost a patient, a very dear friend, with such appalling suddenness, and with a train of symptoms which baffled my attempts to classify her disease, I narrated her mode of death to my friend, Dr. Wm. O. Baldwin, who suggested to me that it was probably a case of heart clot. This first led me to look into its literary history, and the presence of those fibrinous clots in the heart, exhibited to you this evening, suggested to me the present essay.

To one who has stood by the bedside of one of these fatal cases, where the heart itself, or the pulmonic circulation, has been the seat of trouble, the theme will not lack interest.

Inflammation of veins and consequent obliteration has formed a part of the literature of our profession, for the past half century. Embolism of arteries from arteritis followed. But the plugging of an artery by clot, either of fibrine or blood, derived from the heart itself, or the venous system, seems not to have attracted the attention of the profession until rather a recent date.

Prof. Meigs mentions a paper—an inaugural dissertation, written at Halle in 1821—but it seems not to have excited much attention. Next in order—M. Legroux described a case before the French Academy of Medicine in 1837—where the patient, a lady, who had passed through an attack of acute rheumatism, was three months after troubled with uneasiness in the precordial region, an irregular pulse, and a loud bellows sound. She seemed to be getting well under antiphlogistic treatment, when at the end of a month violent pains came on suddenly in the legs and feet, with coldness of

the extremities. In a fortnight the arterial pulsation had entirely ceased in the lower limbs. Eight days before her death the same symptoms were observed in the left arm, and pulsation ceased there also. No gangrene took place. On *post-mortem* examination the cavities of the heart were found to contain old and adherent fibrinous clots, and the lining membrane of the auricles had lost its polish and transparency. The right subclavian artery, the termination of the aorta, and the common and external iliac arteries, were completely obliterated by old and adherent clots. Three of the lumbar arteries were closed by clots, which projected into the aorta like nail heads.

M. Legroux remarks—1st, This was originally rheumatic endocarditis.

2d, In consequence of this endocardial inflammation, fibrinous clots were formed in the cavities of the heart.

3d, The obliteration of the arteries was commenced by the expulsion of these coagula into the vessels.

4th, The arterial obliteration, at first imperfect, was completed by successive additions of coagulum, for the structure of the clots indicated that they had been formed at various times.

5th, The adherence of the clots to the walls of the vessels was the result of inflammation from their presence as foreign bodies.

The subject seems then to have rested quietly until, in 1847, Prof. J. Y. Simpson (to whose writings I am indebted for much of the early history of this disease) read a paper before the Edinburgh Obstetric Society, in which he presents a case as a text for his remarks, which was as follows:—

"A woman, after most severe and exhausting hæmorrhage in parturition, seemed to make a most satisfactory recovery, until, during the second week of her convalescence, some symptoms of irritation occurred, and one morning he found there was no pulse to be felt in the right arm lower than the elbow. The arm felt stiff, coldish and benumbed. After a while, first one and then the other lower extremity became similarly affected. Unmistakable symptoms of erratic phlebitis also showed themselves. The patient died, and the autopsy showed the humeral artery, at the bend of the elbow, shut up by an obstructing coagulum. The vena innominata of the left side and its affluent trunks were also entirely obstructed by coagulable lymph. The valves of the left side of the heart were perfectly covered with small wart-like excrescences. The lower limbs were not examined."

About a year before becoming pregnant, she had severe rheumatic endocarditis, and had suffered much during her pregnancy from dyspnoea, sometimes amounting to orthopnoea.

Prof. S. continues his investigations, and announces the obstruction of arteries from cardiac vegetations as a frequent cause of death in puerperal women.

In the same year (1847), Prof. Virchow, of Würzburg, mentions several cases of occlusion of arteries from cardiac vegetations being carried forward into them until they met with obstruction from the calibre of the vessel.

The next in order seems to have been one of our own countrymen, Prof. Chas. D. Meigs, who, in 1849, boldly grasps the subject, and announces clot in the heart itself and the pulmonary arteries as one of the most frequent causes of sudden death in puerperal women. His descriptions are by far the most graphic of any that I have seen, and once read are not easily forgotten. He seems to have been the first to clearly and distinctly place before the profession the pathology and symptoms of heart-clot. Prof. Simpson, in his first paper, hardly yet grasps the idea of a clot in the great centre of circulation, but by subsequent observation and analysis he, too, comes to like conclusions with Prof. Meigs.

Several other papers have followed, from different authors, treating of the subject in the male and non-puerperal female.

Such is briefly the history of this disease.

Let us now consider the various sources from which these coagula are derived, as,

1st, From the heart itself.

2d, From phlebitis.

3d, From the uterine sinuses and iliac veins in parturient females.

That they may be formed in the heart itself is evident not only from the specimen exhibited to you to-night and the recorded cases of M. Legroux and others, but every one who has been familiar with autopsies has frequently seen them—the coloring matter of the blood entirely whipped out of them by the heart's action, and harder or softer, according to the length of time of their formation before death. They are generally found in cases who die by the heart, and were called by the older pathologists polypus of the heart. Let us briefly consider them, as originating in this organ:—

1st, As the result of endocarditis.

2d, From roughened valves from vegetations.

3d, From foreign bodies.

4th, Without any of these causes, from syncope or a diseased condition of the blood.

It is not difficult to conceive of fibrine being thrown out in endocarditis, for the endocardium is a serous membrane and obeys the laws of such membranes, one of which is the exudation of coagulable lymph in inflammation. Even slight inflammation will cause it, as witnessed in autopsies where the lungs are firmly glued to the chest, the patient never having complained of pain during life, or at least not being laid up with it. Such action of the membrane under high inflammation would furnish abundance of pure fibrine, which, forming a roughened surface, would aggregate still more from the circulating current, until a mass was formed nearly filling the heart. The one on the table is a case in point.

I recall a case of my own, of rheumatic endocarditis, where the heart's action was tumultuous, the pulse thready and hardly to be counted, and there was great dyspnoea. I raised the patient up in bed for the purpose of auscultating his chest. The dyspnoea was so great that I laid him down again. I had given my directions for the night, and had passed from the kitchen to the house, when his mother came running in to tell me he was dead. I was shocked, of course, at so sudden a termination of the case, though I had regarded it as a very serious one, and had invited my friend, Dr. Scott, to visit the patient with me, and we could not at the time account for it. In analyzing the case since, I am satisfied he died of heart-clot, which, being displaced by the effort of rising in bed, obstructed the flow of blood through that viscus. While examining him, just before death, his intellect was perfectly clear and his muscular strength considerable. I can account for his death in no other way, and I regret that I did not, by *post-mortem* examination, satisfy myself.

Secondly, from cardiac vegetations. It is an established fact that blood has a tendency to coagulate around roughened substances. Witness the whipping of newly drawn blood with a bundle of twigs. Let us suppose a heart whose valves are fringed with these vegetations. It has accustomed itself to these clogs upon its action, and has gathered force to overcome them and send forward a sufficient quantity of blood. But anything occurring to decrease the force or interrupt seriously the rhythm of its action, as syncope or nervous shock, it is easy to conceive of the fibrine of the

blood clinging to them, the sluggish current of the blood not being sufficient to wash it off as it is deposited. But the circulation gaining force, it is dislodged and carried forward until it is stopped in some larger or smaller artery, according to its size, or, sadder still, may remain and increase, plugging up the heart itself.

Nor are we left to hypothesis merely. I will give you a case, one out of five reported by Prof. Simpson.

"Ten days after the lady was delivered naturally and easily of her fifth child, she began to complain of numbness and pain of her right arm, which, with slight intermissions from opiates, &c., continued until her death, which took place at the end of three weeks. No pulsation could at first or subsequently be felt below the middle of the brachial artery. A week after this arterial occlusion in the upper extremity, a similar change took place in the right thigh, accompanied with severe pains. This ceased in great measure four or five days after, when unequivocal signs of gangrene showed themselves, commencing at the toes and extending to the knees. On dissection, the aortic valves were found by Dr. McFarlane to be covered with numerous vegetations, some of which exceeded a grain of linseed. The aorta was dilated, and studded with atheromatous deposits. At the points of obstruction (viz., the middle of the brachial and the commencement of the lower third of the femorals) fibrous clots were found, which completely closed these vessels. The upper or cardiac end of these clots contained, and was firmly attached to, a small, hard body, which was identical in size, structure and appearance with the valvular excrescences. The case needs no comment."

Mr. Paget and others give cases of the same nature, where larger arteries were involved, and also the heart itself.

Third, foreign bodies in the heart, as a pin or needle, which sometimes mysteriously find their way thither. Such cases are on record, and the autopsies have shown them to be a nucleus for the deposit of fibrine, but they are so rare that mere mention is sufficient.

Lastly, I would mention those cases, more strange than all the others, where, without any evidence of heart disease, sudden and most agonizing death, or embolism of arteries with its sad train of symptoms, occurs from heart-clot. It would seem to occur in those states of the system which predispose the blood to easy coagulation, as Bright's disease of the kidneys, the pu-

erperal state, profuse hæmorrhage, high inflammatory action when the lancet has been used too freely. Either of these conditions existing, a prolonged syncope would certainly endanger the life of the patient from coagulation of the blood in the heart.

In the cases recorded by Prof. Meigs, the patients were puerperal women, who had been exhausted by profuse post-partum hæmorrhage. A fainting from being raised to the upright position had given a chance to the superfibrinated blood to form a solid mass in the heart.

In my own case the labor was easy and natural, and the convalescence in all respects favorable until the beginning of the second week, when slight fever came on, of an intermittent type, which yielded in two or three days to quinine. On the evening of the fourteenth day I visited her, and found her sitting by the window. I spent considerable time with her in mirthful, jesting talk, little dreaming of the sad termination of the day. About 6 o'clock in the evening I was sent for in great haste, as the patient had fainted. I hurried to her bedside to find her panting terribly, her pulse very feeble and quick, countenance pale, and a wild look of terror in her eyes. In gasping, broken utterances she said to me, "Oh! doctor, I am terribly frightened." I tried to re-assure her, though I saw at a glance that it was not merely a common fainting fit that I had to deal with. She complained of no pain, but the dyspnoea was beyond all description terrible. It seemed as though the whole power of her will and the whole strength of her voluntary respiratory muscles were bent to this one task. I placed my ear to her chest; the air entered and filled her lungs perfectly. I plied stimulants very freely, and sinapisms to spine, chest and extremities. At times I thought the pulse a little stronger, but her condition went on from bad to worse, until nine o'clock—three hours from the time of her attack—when she died. Dr. J. F. Johnston saw this case with me, about half an hour before death. The intellect continued clear throughout. There was no *post mortem*. Whether the syncope was a cause or an effect, I do not know. She lost her consciousness but a few moments. She had sometimes complained a little of her heart, but never so as to consider it seriously, or to lead me to examine it for disease. There are two conditions which would give rise to the symptoms—viz., a plugging of the pulmonary artery, or a coagulum in the heart itself large enough to seriously impede the circulation. Whether the clot was

formed during the deliquium, or whether it was formed in the uterine sinuses or iliac veins previously, and, having been dislodged from its position, was carried in the venous circulation to the heart, thence becoming a cause instead of an effect of syncope, I cannot tell. Of this latter source of clot I shall speak after a little.

The dyspnoea was not from want of air in the lungs, but a want of oxygenated blood in the whole system. In other words, the whole system was calling upon the lungs and hurrying them up to supply the vital element, and they were doing their work nobly and well, but the circulation failed to furnish transportation for it.

Prof. Meigs gives a case of similar import, except that the patient had lost largely from post-partum hæmorrhage. The next day she was doing well, pulse 75. The accoucheur left her at 10 o'clock on that morning, and at 1 was again at her bedside, having been summoned hurriedly thither. She had sat up in bed to pass her water, soon after her attendant had left in the morning, and had fainted. Upon his return, he found her apparently dying; pulse 164, feeble and threadlike, the hands cold, the respiratory acts repeated at long intervals, depending solely upon her will, without rhythm, and performed with great violence.

Prof. Meigs saw her at 3, P.M., in consultation. He says:—"She supposed herself moribund, and, still breathing solely by the will, asked me, a stranger, with words broken by the occasional forced inspirations, 'Sir—do you—think—I shall be—alive—in half an hour?'" Having seen a case of the kind, his description brings up the patient's condition in bold relief to my mental vision. She died in thirty-six hours after the accident. The autopsy showed a whitish-yellow, chicken-fat colored coagulum filling the right auricle and ventricle and the pulmonary artery. The slight pulsation felt at the wrist was from such small quantity of blood as could be squeezed past the obstruction.

Phlebitis is another source of the origin of heart-clot and embolism. Many of the secondary abscesses which follow this disease are caused by it, as shown by dissection—the artery supplying the part in which the gangrene or abscess is developed being found firmly plugged with a fibrous coagulum. The chief seats of embolism from this source are the pulmonary arteries and the heart itself. The reason for this is evident. All the systemic venous blood must pass through the right

heart and the pulmonary arteries before it can reach the systemic vessels. Any solid masses must, of course, be stopped in the pulmonary arteries or their sub-divisions. Accordingly we find cases where the obstructions commence first in the smaller branches, giving rise to lobular abscesses; or the larger, affecting a whole lobe; or larger still, plugging up the main artery, and finally the heart itself. The larger the artery the more imminent the danger, and death is the sure result if the main vessel or the heart is its seat. A small coagulum brought forward from the venous system becoming entangled in the columnæ carneæ of the right ventricle, would form a nucleus for further deposits from the blood until the heart is tamponed, as Prof. Meigs terms it, and death ensues, with all the agonizing symptoms detailed before. The frequent result of phlebitis is death in two or three days from the attack. Such cases are characterized by sharp, catching pains about the heart, fainting fits, weak, rapid pulse, &c.

The question suggests itself to me, and seems to demand an affirmative answer—if these cases do not die from heart disease, the coagulum originating in the inflamed veins and carried forward in the circulating mass.

Prof. Simpson gives six cases where death resulted in puerperal women from this cause, the coagula being derived from inflamed uterine, crural and hypogastric veins. Let me give you one of them.

"A robust woman, aged 30, after an easy delivery on the 1st of October, had severe hæmorrhage from adherent placenta, which had to be extracted. Her state was satisfactory until thirty-six hours after her accouchement, which was prolonged until the morning of the 3d of Oct., and was succeeded by febrile heat. The uterus was very tender to pressure, the skin hot and dry, the pulse 120, and there was anxiety, feebleness and violent headache. During the next three days, the symptoms became graver, and the pulse rose to 136 or 140. On the 6th of October she seemed better, but the great frequency of the pulse still produced serious fears. On the 8th, she reported herself as having passed a good night, and felt well. After noon, however, notwithstanding a warning to the contrary, she got up, but immediately fell to the ground, and rose with great difficulty. At the end of an hour and a half she was found sitting on the edge of her bed, and at 4 seemed dying. Her pulse was thread-like and difficult to count, her respirations very

frequent, 60 to 70 in a minute, her face was cold and blue, and bore the appearance of extreme anxiety; her extremities were cold. In a short time she became insensible, and died at half past ten in the evening.

On dissection, small portions of the placenta were, according to Dr. Hecker, found still adherent to the uterus. In its walls the lymphatics were found filled with pus, and the veins with fibrinous coagula. The left hypogastric veins were found obstructed with clots which extended for some distance into the tubes of the common iliac veins. The head was normal, but the trunk of the pulmonary artery was plugged by a thrombus or coagulum, extending into its two branches, and capable of being followed far into their ramifications.

Another case is still more impressive. A young woman, three days after delivery of her first child, was attacked with phlebitis of the left extremity, which yielded to appropriate treatment. But during convalescence she suddenly uttered a scream, fell down and expired.

On *post-mortem* inspection, the left crural vein and its branches were found obstructed with phlebotic coagula, which extended upwards to the junction of the crural and iliac veins. The pulmonary artery was filled with similar coagula, which could be traced into some of its smaller ramifications.

Prof. S. gives four other cases of similar import, all the result of puerperal phlebitis, and all dying from obstruction of the pulmonary artery.

It has seemed to me possible and even probable that sudden death often occurs in the lying-in woman from this trouble, where the coagula are derived from the veins within the pelvis independently of inflammation.

In the passage of the fetus over the brim of the pelvis the veins must be sometimes strongly compressed, so as to totally interrupt the return current of blood. If the blood is predisposed to easy coagulation, why not form a coagulum during its stasis, which would be swept forward after the expulsion of the fetus? I have no case in point, and submit the hypothesis for what it is worth.

I am strongly of opinion that in former times, when large and repeated bleedings were the fashion, many a life went out from coagula forming in the heart during the deliquium. In searching the records of those times, I am satisfied from the detail of symptoms that such was the case. The heart and brain were both weakened by the exhaustive use of the lancet, and the blood,

superfibrinated and predisposed to coagulate, would easily form a solid mass in the heart. I am tempted to give you details of one case in particular, found in Marshall Hall's *Treatise on the Blood*, but I fear to become tedious.

I would also call attention to the sudden deaths which not unfrequently occur in diphtheria. No satisfactory cause has been assigned for them. The extreme suddenness of the fatal issue, often a few seconds or minutes only intervening between progressive convalescence and death, would lead one to suspect that in the absence of any evident cause, such as the loosening of the false membrane blocking up the trachea, the fatal issue was caused from heart-clot. Let me give you here a single case, furnished me by our friend, Dr. Scott.

"A boy, aged 9 years, had had a severe attack of diphtheria; he was convalescing, the false membrane had cleared from the throat, and no apparent prostration showed itself. He was eating well; had just got out of bed to stool, supported by his mother, when he suddenly threw back his head and expired almost instantly."

Others have occurred in our own city almost as sudden. I regret that I cannot give the results of dissection, to set the question at rest.*

It would seem strange that an organ usually so sensitive as the heart is, could become comparatively tolerant of the presence of such foreign bodies, and do its work for days, and even years, clogged with such an incubus. And yet such would seem to be the fact. The heart before you must have been gathering the fibrinous mass for some time. Witness the toughness of it, almost like leather, and the freedom from hematine. 'Tis true it has been macerating in alcohol for several days, but upon its first removal it presented much of its present appearance, except that it had rather a yellowish tinge. Like other organs, it learns to bear much, growing upon it gradually, which would suddenly kill in the case of a previously healthy organ. A small coagulum might, and has been known to remain for a long time attached to the columnæ carneæ, without giving rise to very unpleasant symptoms, so long as the circulation is otherwise healthy. But anything

* Since writing the above, I have seen an article in the *American Journal of the Medical Sciences* for January, 1869, by J. Forsyth Meigs, in which reference is made to a paper on Heart-Clot in Diphtheria, published in the April No., 1864. As I have not the files of the *Journal* for the four years of the war, I cannot at present refer to it; but he seems to have established by dissection what seemed to me most probable, viz., that heart clot is the cause of sudden death in that disease.

which should weaken the heart's impulse, or impair its rhythm, or cause a superfibrillation of the blood, would light it up into a serious and probably a fatal trouble.

Of the prognosis of this accident, little need be said. You will have gathered from the foregoing remarks that it is almost always a fatal trouble. When the heart itself, the pulmonary artery or the aorta, is the seat of embolism, the case is surely and quickly fatal.

Where the arteries of the extremities are involved, much will depend upon the amount of disease in the general system, which caused the trouble. The simple occlusion of one of the arteries of the extremities is not necessarily fatal, as witness our feats with the ligature. A few cases are on record of recovery. One in the *London Lancet* for Dec., 1868; the embolism following an attack of pleuro-pneumonia, and seated in the femoral artery. Gangrene took place, followed by amputation and slow recovery. Another case is reported in the *American Journal of Medical Sciences*, where recovery took place.

The symptoms of arterial embolism are, great pain and numbness of the affected parts, decrease of temperature, cessation of pulsation below the occlusion, and increase of action above. Where the pulmonary artery is involved, there is often great pain over the sternum; frightful dyspnoea, while upon auscultation the air is found to enter the lungs perfectly; a small and rapid pulse; coldness of the extremities and pallor and coldness of the face, and in the early stage, a wild look of terror.

The treatment must be almost exclusively prophylactic. In parturient females, especially if they have lost largely from flooding, a most rigid, horizontal position, and if inclined to syncope, the head to be lower than the body. In all cases of cardiac disease, this is especially to be enforced.

In endocarditis, the great object should be to saturate the system with an alkali as quickly as possible. It is proved that alkalies have the power to dissolve fibrine, or at least, alkaline blood holds it in solution. Besides curing the rheumatism upon which it depends, you give the heart the best chance to escape present or subsequent trouble. I have had no experience in the use of such remedies in phlebitis, but I cannot see why they should not be useful.

Where the accident has already occurred, if in an extremity, the same treatment as after ligature of the artery should be adopted, viz., perfect quiet, the limb to be wrapped in soft, carded cotton, and gentle,

artificial heat kept up, all pressure being removed. A case is reported by Dr. J. Forsyth Meigs, where the subclavian and popliteal arteries were both occluded, during convalescence from a severe attack of scarlet fever. The above treatment, with stimulants, brought the little patient through, and saved both limbs, the circulation seeking out collateral channels.

In those most distressing cases where the heart or pulmonary arteries are involved, are we to stand idle spectators of the agonizing scene? By no means. True, we cannot stay the march of the fell destroyer, but we can ease the patient into her final slumber.

Prof. Meigs, in relating his case, says, that in order to correct the dyspnoea, the irregular rhythmless effort, he stood before the patient and told her to imitate him. He inhaled at regular intervals about 150 cube inches of air, which she, keeping her eyes upon him, closely imitated. In a few moments she had acquired the habit, and from that time till her death had no more merely voluntary respirations. This was accomplishing much. As we are left here to study only the euthanasia, opiates, too, will suggest themselves.

PROBABLE CASE OF EMBOLISM OF THE SUBCLAVIAN ARTERY, RESULTING IN GANGRENE, SPONTANEOUS AMPUTATION AND RECOVERY.

By LYMAN H. LUCE, M.D., West Tisbury, Mass.

On the 2d of March, 1868, I was called to see Miss L., from whom I learned the following history:—The patient was an unmarried woman, aged 76; has been subjected during her whole life to the best hygienic influences, and consequently enjoys a state of health which is unexceptionable. It is a remarkable fact that she has never experienced a pain of any kind, with the exception of a slight toothache, never taken any drugs or applied for medical advice until her present illness. Parents were both healthy, her father living to the advanced age of 96. I ascertained that during the previous night she first perceived a sensation of numbness and pricking in the right hand and arm, with inability to raise it. There was entire loss of sensation and motion as far as the middle third. Pulse imperceptible as high as axilla, with marked diminution of temperature. Pulse in sound arm 80; some tenderness along the course of the vessels, but no pain. There was no evidence of any cardiac disturbance upon

auscultation, or any symptoms that indicated grave disturbance of the system generally. She had a good appetite and slept as well as usual.

My notes of the case are as follows:—
March 4th.—There is now discoloration of hand and arm as far as middle third. Has passed a sleepless night, but still retains a good appetite. No pulsation below the subclavian. Pulse in sound arm 85. No pain, but a sensation of uneasiness and weakness. There is slight symptomatic fever, indicated by the pulse and flushing of the face. Left a bottle of McMunn's elixir, with directions to take twenty drops at bed time.

March 7th.—Discoloration extends as far as elbow; hand and wrist darker than at last visit, in fact, gangrenous. Still retains her appetite, and has slept well since taking opiate.

March 10th.—Arm less discolored about elbow, and temperature higher than during last visit. Is returning to its natural condition from above downward; has no pain. In other respects much the same as during previous visits.

March 13th.—Arm has returned to its natural condition from above downward as far as middle third, where a line of separation seems to be forming.

March 17th.—Line of demarcation is distinctly formed around middle third; the parts below are extremely fetid; large bulæ filled with fetid serum project between the muscles which are visible. The patient was now advised to have the arm amputated, and the benefits which would result from an early amputation duly enforced. She utterly refused to submit to the operation, being firmly convinced that the arm would recover its former vigor and strength. The rapid disappearance of the discoloration about the elbow, and an imaginary pricking in the fingers which had been dead from the first, seemed to strengthen her in this belief. Details of the case from this date seem uncalled for, as there have been but slight constitutional symptoms, retaining throughout the disease a good appetite, often doing her housework, and never occupying her bed during the day. During March 4th, it will be seen by reference to the notes, there was loss of sleep and slight symptomatic fever; with this exception she has been as well as usual. From March 17th to September the arm has been undergoing gradual decomposition. During the last of July, 1868, the bones became visible, and in September began to show the effects of ulceration. On Sunday,

the 4th of July, 1869, the patient awoke to find her arm in the bed beside her detached; the whole process being accomplished in one year and three months. The stump is well formed, having the appearance of a flap operation, and but for the protruding bones would speedily heal. The treatment was mostly local. Cotton bats were applied at first to retain the temperature of the parts, and the patient instructed to keep the arm in a situation to favor the circulation. Carbolic acid was freely used to correct the odor, and later in the disease incisions were made to let out the collections of fetid fluid. Straps were applied to give support to the flabby tissues. Apprehending rapid prostration, bark and stimulus were given, and a nutritious diet enjoined. These were discontinued after a few weeks, as there was no apparent need of them. The fortunate termination of the case in recovery, together with the almost entire absence of constitutional symptoms, render the diagnosis obscure. That there was an obstruction of some kind in the subclavian artery is evident; but any attempts to explain what one of the various pathological conditions which are known to produce such results, obtained here, would with the slight evidence be impracticable. The suddenness of the attack, in connection with loss of motion and sensation, together with the fact that the system of the patient was admirably adapted to the formation of large quantities of blood, are in favor of embolism.

BROMIDE OF POTASSIUM IN TETANUS.

It has been my fortune during the past year to have two cases of general tetanus and one of marked trismus under my care at the City Hospital. The first occurred during the excessive heat of last July in a girl of 17, who had suffered a crushing injury of the foot, requiring Chopart's operation.

The treatment was by morphia, death resulting on the eighth day after the occurrence of the tetanic symptoms. This case was reported at length in the Boston Medical and Surgical Journal, Sept. 17, 1868.

The second case was as follows. A Portuguese carpenter, 44 years old, fell from a staging, May 12th, 1869, producing a fracture of the right thigh, in which crepitus was found at two points six inches apart, with much shortening before extension was applied. There was also a slight scalp

wound. This man was, during the first week, in a depressed, lethargic condition, answering when roused; disinclined for food, frequently moaning although denying pain, and with a very feeble pulse. Pupils responding to light. On the eighth day there was first remarked an inability to open the mouth fairly, accompanied with stiffness of the neck. Next day the trismus had become very marked, so that the jaws could only be separated about a quarter of an inch; there was also œdema of the neck and of the left side of the face, with an erysipelatous blush behind the ear. The head could not be moved without causing great suffering. This state of things continued four days, the patient being fed every hour with small amounts of milk, beef-tea and wine, alternately. He also took one drachm of solution of morphia every six hours. On the sixth day from the occurrence of trismus there was an improvement in all respects, which continued from day to day until, on the 1st of June, all tetanic symptoms had disappeared.

The third case was of a carpenter, 17 years old, admitted June 6th, 1869. He reported that, two weeks previous, the base of great toe of left foot was punctured by a nail, and that, three days after, he had painful stiffness of the jaw, neck and back, which had continued to grow worse. Examination of foot showed only a slightly red point at the place he had indicated.

His condition was one of well-marked general tetanus. Opisthotonos. Neck, abdomen and legs rigid. Movements of arms quite free. Jaws could be separated only about a quarter of an inch, but patient could swallow. Sardonic grin very marked. Pulse 130. Bowels constipated. Occasional spasms, causing the patient to cry out. He was ordered one drop of croton oil, to be repeated if necessary, and to be followed by liq. morphiæ ℥ii. every four hours, with beef tea and whiskey at short intervals.

June 8th.—Condition rather worse. Convulsions more frequent. Trunk as rigid as if frozen. Legs immovable. Abundant sweating, accompanied by a miliary eruption. No effect from three drops of croton oil. Enema tube could not be forced through the sphincter except under ether. Could still swallow, and use his arms. He was ordered bromide of potassium ℥ii. every hour, continuing beef tea and whiskey, and omitting morphia. The next day a slight improvement was noted. Convulsions were less frequent, and the legs could be flexed by using a good deal of force. The pulse had

fallen to 65, at about which point it subsequently remained. The intelligence was dulled, but the patient took his food and medicine without much difficulty. From this time the amendment was progressive, convulsions ceasing entirely, and the rigidity of neck, back, jaws, legs and abdomen diminishing daily, and for the most part in the order named. As this improvement continued, the bromide of potassium was given less and less frequently, until July 1st, when it was omitted entirely. The amount taken during twenty-one days was not far from twelve ounces. During the first two days two scruples were given forty-two times. The only effects observed, other than a subsidence of tetanus, were dulness of the intellect, and slowness of the pulse. On the 4th of July the patient was discharged well. GEO. DERBY, M.D.

Medical and Surgical Journal.

BOSTON: THURSDAY, JULY 22, 1869.

THE INTER-CAROTID GANGLION.

We translate the following from the *Gazette Hebdomadaire*.

Two different opinions have stood forth as leading theories upon the nature of this body. With Luschka, it is a glandular organ, composed of rounded or oval vesicles; or of ramifications of cylindrical tubes with rounded extremities bent upon themselves. These vesicles contain a layer of epithelium; also nucleated cells, together with free nuclei and molecular granules. In addition, a large number of nerves and nerve-cells are found in them. In short, the body is not a veritable ganglion, but a nervous gland.

Arnold, on his side, has arrived at different conclusions. According to him, there are neither glandular tubes nor glandular vesicles; but the organ is in great part composed of arterial glomeruli. Into each of these glomeruli penetrates an artery, which, by its ramifications and its multiplied and dilated folds, presents an appearance of glandular tubes. These arterial dilatations enclose a layer of epithelium and blood. Moreover, numerous nerves and ganglionic nerve-cells dwell in the midst of the glomeruli.

Dr. Pförtner has arrived at conclusions

which support the opinions of Arnold. He considers that injection, natural or artificial, has clearly shown that the alleged glandular vesicles are only vascular dilations—arterial glomeruli. The abundance of nerves and ganglionic cells is likewise confirmed.

The function of the organ is deduced by Dr. Pförtner from its anatomical structure. The inter-carotid gland, he says, has relations both with the nervous and with the circulatory system; and may, therefore, be regarded, from its nervous affiliation, as an important centre of nutrition; and, from its connection with the carotid circulation, as a reservoir for regulating the pressure of the blood.

In the preceding translation the views of Arnold are alluded to as widely differing from those of Luschka. We are informed that Arnold's description is not clear, but that he and Luschka are agreed on the point that "the middle cervical ganglion," as it has heretofore been called, is not a "ganglion" in the ordinary acceptance of the word.

CHOLERA versus CLEANLINESS.—It is recorded, in the *Gazette Hebdomadaire*, that at a session of the Académie de Médecine in May, M. Fauvel mentioned a communication he had made three months previously as to what point of Europe was menaced by a new invasion of cholera. In that communication he had alluded particularly to the fears to be entertained relative to the region of the Red Sea on the occasion of the then approaching pilgrimage to Mecca. He had set forth, at the same time, the measures taken in view of the danger, in India, especially in the English Provinces; at the Red Sea; at the places of pilgrimage, and in Egypt. A very watchful interference is practised in the ports of the Red Sea. At Mecca itself, the Ottoman government has applied excellent hygienic and sanitary regulations on a grand scale. At the present time Mecca is provided with wholesome water in abundance, thanks to the inauguration of a new system of supply and distribution. Furthermore, enormous trenches have been dug to bury the

remains of animals immolated in sacrifice. Also, sinks have been made, containing various disinfecting agents, for the dejections of the pilgrims. The pilgrimage this year has been even larger than in 1865. One hundred and ten thousand votaries have visited the holy city. The greater part of them went in caravans; the remainder by sailing vessels and steamers. Those who arrive by water are subjected to quarantine, whence the preference of the Mussulman for the caravan. During the solemnities only forty deaths took place—a fact which proclaims the utility of the precautions adopted.

Accordingly, says M. Fauvel, the cholera was not imported from India into the Hedjaz, and was not developed during the pilgrimage; in spite of the report, happily contradicted, of its appearance on board certain pilgrim ships. Thus, he adds, the pilgrimage is ended, and Europe may be considered in no danger for this year from this source. * * * *

COMPOUND FRACTURES OF THE LOWER THIRD OF THE LEG.—The subject has been under discussion at the *Société Impériale de Chirurgie*. M. L. LeFort said compound fractures of the lower third of the leg are always grave. Either the fracture occurs from direct contusion of the limb, or else the wound is produced from within outward by osseous points. In the first case, the fracture rarely communicates with a joint, and the limb is preserved. In the second case the wound may be small or large. The bone may project, and be difficult of reduction. When the wound is small it is best to attempt the preservation of the limb, and to cover the wound with gold-beater's skin smeared with collodion. When there is a fracture at the lower portion of the leg, with little shattering, so long as it is believed that the joint is not penetrated, we should give the limb the benefit of the doubt, and endeavor to preserve it. I have, however, had a patient in this condition, who had toward the tenth day swelling in the region of the joint, and whom I had to subject to amputation. The fracture had not communicated with the articulation;

but the periosteum had been detached by suppuration, and the pus had penetrated into the joint. * * *

M. Demarquay.—I could have wished to find in the communication of M. Le Fort a precise indication as to the conduct proper to pursue. Those who are always for amputating are less embarrassed than others. But there are patients who get well without operation. A conclusive reason for amputating would be the breaking off (*l'éclat*) of a fragment in the joint; but the part of its occurrence cannot be fully ascertained. If the articular fracture were known, amputation would be requisite. The signs of it are furnished only by the consecutive symptoms, and then amputation gives small chance of success. I have performed resections, but have lost many patients. I remain, therefore, in a state of uncertainty.

M. Trelat.—A general collection of statistics could alone decide the question in debate. If the anatomical diagnosis necessarily brought with it an exact prognosis, I should believe M. Le Fort to be in the right path. But, I do not think it is so. It cannot be said that every time a fissure penetrates the joint there will be fatal consequences. The patient may get well, notwithstanding M. Demarquay says that he would perform amputation if the articular fissure were recognized. But even then, I do not think that one should [infallibly] do the operation.

M. Trelat then related four cases in which there had been either manifest or else very probable signs that the joint was involved, and which had got well.

RACIBORSKI ON MENSTRUATION.—In the *Bulletin de la Thérapeutique* there is a sprightly review of a work by Raciborski on Menstruation in various of its relations. The reviewer says that the author claims the priority in the matter of counselling females who have arrived at a "certain period of life" to renounce the pleasures of the world, and in the interest of their health devote themselves to works of beneficence and charity. The tone of this sentence somewhat profanely reminds us of the advice of the Doctor to the *Dame aux Camelias*—though received by her much earlier in life—that

she stood in need of repose. The reviewer says Raciborski's counsel is in a measure preaching to the converted; for a long time ago Marguerite of Navarre declared that, at the age of 40, women should change from *belles* to *Dorcases*—(*changer leur titre de belles en celui de bonnes*). Such things are not matters, he adds, of factitious invention. They sprout in the hearts of well-born women like mushrooms in the warm breath of night in the latter part of summer. M. Raciborski himself has a pet anecdote to show, as it is intimated, how circumstances sometimes lend themselves to the enforcement of the physician's edict. It tells of one of those women of the world, in whom the mushroom of autumn pushes its growth with unusual difficulty, and not without the attendance of neuropathic symptoms, liable to lead to a change of Doctor, if the medicine man employed be a novice. Now this lady, one day, suffering and disquieted, sent for our *confrère*, and at the conclusion of the interview promised that if she should get well she would submit to the wise advice with which he had for a long time importuned her. "I believe you are right, Doctor," said she. "I attribute my disorder to a keen mental disturbance. You know how we poor women are exposed in the world to be pursued by jealousy. Our pretended friends rarely pardon us the least success; and you know, my dear Doctor, that this was my lot for a long time. But, never before, in all my life, did I receive an affront like that offered me yesterday, in public, at the fancy ball of the Minister de —. I had a ravishing toilette—a dress of pure white, covered with ivy, a brilliant one on each principal branch. My hair was dressed to correspond. Everybody paid me compliments; and for an instant I had the weakness to believe in their sincerity. At the most blissful moment of triumph, however, a blue domino who was passing stopped, made a feint of examining me from head to foot, and cried out in a loud voice, 'To-day, my beauty, your toilette is irreproachable in point of taste. All is in harmony with the person. Ivy! Everywhere ivy! So appropriate to ruins.'" The conclusion of the little secret drama was that Madame —

submitted to cruel necessity, and from that day forth enjoyed perfect health. The reviewer well says that the story is a pearl which the writers of novels founded on fact would never think of looking for in a treatise on menstruation.

The reviewer gives unstinted praise to the work of Raciborski, but points out two *lacunæ* in the pathological history of the function in question. No mention is made, he says, of a certain morbid congestion which sometimes occurs in young girls at the time when menstruation is being set up—congestion of the thyroid gland. More than one goitre, he adds, has had this for its point of departure.

He also regrets that in connection with the description of the course of menstruation in typhoid fever, a fact is not mentioned which has been pointed out by others. It is that the menstrual function at its first onset is liable to become a morbid process so far as to simulate closely the prodromata of typhoid fever.

From the report of Dr. C. A. Walker, the Superintendent of the Boston Lunatic Hospital, for the year 1868-69, we take the following:—

There were remaining in the Hospital on the first day of May, 1868, one hundred and seventy-nine patients—ninety-four men and eighty-five women. Eighty-seven—fifty men and thirty-seven women—have been admitted during the year. Whole number under care and treatment during the year, two hundred and sixty-six.

Sixty-four have been discharged, and there are remaining at this date, two hundred and two—one hundred and nine men and ninety-three women, a number greater by twenty-three than at the corresponding time last year, and very much greater than at any previous period since 1857.

Of the admissions, thirty-five were by order of the Courts, fifty by the Board of Directors, and two by the Superintendent. The two admitted by the Superintendent, were of such a peculiar nature that they demand more than a passing notice. One of them came to the hospital late in the evening, and demanded admission for self-preservation. Dr. Fisher readily detected the suicidal tendency, and, of course, at once provided for him. He remained but a short time, and returned to his friends in a

comfortable and safe condition. The other, accompanied by his daughter, applied one afternoon for admission to protect his family (wife and daughters) from his murderous impulses. He stated that for many weeks he had been struggling against an inclination to kill his family and himself. His friends, and even his physician, laughed at his story, and told him it was all nonsense. Finding himself no longer equal to the struggle, he begged us to have pity on him and protect him. He was at once admitted, and, under suitable medical treatment, materially aided by his own personal feeling of relief and security, he rapidly improved. In a few weeks, he appeared to the casual observer, perfectly recovered, and thought himself well enough to return to his home and his business. His friends were advised that his apparent condition of health had no foundation, and that the case required prolonged hospital treatment. At that time, in many States, an application for a writ of habeas corpus would doubtless have been successful. His friends reluctantly yielded to the advice pressed home to them, and transferred him to another hospital, he having no claim upon this. For weeks after the transfer, he remained in a comfortable, quiet and rational state, the Superintendent declaring that, had he not come directly from us, he should have been troubled with grave doubts of his being a proper subject for custody in a hospital. One day he suddenly sprung from the dinner table, thrust his arms through the window, and made a furious and indiscriminate assault upon the persons present. Since then, he has alternated between seasons of maniacal excitement and apparent rationality. Who can doubt that, but for the promptness with which his appeal here was responded to, himself and his family would have been murdered, and the community stricken with excitement and horror! And, yet, during even his short sojourn here, so well did he, for the most part, appear, that a fair case of unjustifiable detention might have been made out against the hospital.

We are constrained to say that we do not share the regret expressed by Dr. Walker at the abandonment of the Winthrop farm as a site for a new Lunatic Hospital. On the contrary, it seems to us that if Nature had furnished a place on purpose to keep away from it such an institution, the spot indicated would be the very one. Dr. Walker, however, treats the matter as, what it no doubt is, a past issue.

But, why should the city of Boston build another Lunatic Hospital at all? If the present building is indeed so crowded with occupants—all city paupers and none of them chargeable to other towns—as to demand additional accommodation, why should not the State put up the new structure, charge Boston tax-payers with their proportion of the expense, and support our quota of the insane poor?

Though it is not competent for us to enlarge upon this point, it is quite within our province to state another and a strictly professional objection to the project in question. It is this. The chief topic of the day with the authorities upon—the experts in—insanity is whether it be for the best good of a considerable proportion of the unsound in mind to be congregated in hospitals. Some of the most eminent and experienced of those authorities are convinced, that very many of the harmless insane would be happier and otherwise better off than they are in our lunatic asylums, if boarded out under the supervision of proper commissioners, in the homes of the rural population. Though economy is not the motive of the proposed change, but the welfare of the patient, yet it is believed that the expense *per capita*, to the towns supporting the indigent insane, would be less than they now have to pay, and it is apparent that the hospital accommodation thus set free would be sufficient for the present demand. We say no more, but content ourselves with referring to the remarks of Dr. Tyler, of the McLean Asylum—already laid before our readers—with regard to the custody of the insane. Those remarks, it will be recollected, occur in the report of the Massachusetts Medical Society's Anniversary, on page 367 of the present volume.

THE CAROLINA SISTERS. *Mr. Editor*,—I have just seen a number of the *Richmond and Louisville Medical Journal* (January, 1869), that contains a description of these girls by Prof. S. H. Dickson, of Philadelphia, and that I should have seen and quoted from when I prepared my own recent description of them.

Prof. D. saw them in November, 1853, and his record then was:—"The vagina must divide and become double, as there

are, doubtless, two uteri (occupying the two pelves), and almost certainly two urinary bladders."

In May, 1866, Prof. D. again saw them and examined them *per vaginam*. The sacrum, he thought, was alone implicated. He found "one anus and one vulva, with two vaginæ and two meatus urinarii. As they lie on Millie's right side the anal opening is below. At a corresponding point above and beyond the vulva there is" a cul de sac three fourths of an inch deep, "perhaps the trace of an abortive anus. The clitoris is double or bifid, and the openings of the two vaginæ slightly projecting in the vulva lie side by side."

July 15

J. B. S. JACKSON.

From the annual report of the Washington Home, Boston, for the year 1868, we quote a part of the list of officers for the year 1868-9, as follows:—

President.—Otis Clapp.

Vice Presidents.—Albert Fearing, Moses Mellen, Franklin Snow, Wm. Cladin.

Executive Committee.—Otis Clapp, R. K. Potter, S. B. Stebbins, Theodore Prentice, J. Emery, William R. Stacy.

Secretary and Superintendent.—William C. Lawrence.

Physician.—E. A. Perkins.

We make the following extracts from the Superintendent's report:—"Medicinal and dietetic agencies may do much to check and alleviate the disease [intemperance], and lessen the frequency of attack, but to effect a radical and permanent cure the subject must look within himself for the healing power. The man must be aroused and his moral nature excited to action. He must be led to hate intemperance for its sinfulness and utter vileness, and not simply and alone on account of its cost to his purse, health, and reputation. When thus affected his cure is certain, and every night at our regular meetings we have numerous evidences of this fact from men who, before coming to the Home, were pronounced incurable, who now count their years of reformation from one to ten, and, as one speaker aptly expressed it, serve as milestones on the road of life to guide and direct the young and trembling traveller on his way to usefulness and happiness.

"In regard to relapses and their causes, it is noticeable that a large proportion of such cases are more or less addicted to vices that lead to and accompany intemperance, or from the necessities of business, or from force of habit, have continued to maintain

their old associations, and consequently have been continually under the influence of temptation, which, sooner or later, results in indulgence and then in excess.

"Another class, for various reasons, have left the Home too soon, and before our system of treatment had been fully tried upon them, and hence have been but partially prepared to resist the assaults of appetite and habit.

"Before leaving the institution, all such patients are warned and counselled in relation to their future conduct, and proper advice, such as their condition requires, is given to aid them in avoiding peril and overcoming temptation. This duty performed, the result depends entirely upon the patient, whose own will determines his ultimate conduct."

"On the whole, the experience of the past year serves to add still more unmistakable evidence of the need and utility of our institution, and the necessity of its speedy enlargement and improvement, so as to cover a larger and more varied field of usefulness. As Boston has the honor of first introducing to the world this hopeful and philanthropic system for successfully combating and curing the greatest curse of our age—intemperance—we have the right to hope that the liberality of its citizens and the wise legislation of its government will soon erect an institution of such capacity and thorough adaptedness to the wants and requirements of the times as shall make it a perfect model for other cities and States to copy and emulate."

NEW YORK STATE INEBRIATE ASYLUM.—From the Superintendent's Report of the New York State Inebriate Asylum for the year ending December 31, 1868, we learn that the officers are Willard Parker, M.D., President; Ausburn Birdsall, First Vice-President; Dr. John Conkling, Second Vice-President; William E. Osborn, Treasurer; Samuel W. Bush, Register; Albert Day, M.D., Superintendent and Physician.

The report says:—"A recent magazine article, in which this Institution and its management were described with sympathy and spirit, had the immediate effect of bringing to the Asylum a number of our most interesting and hopeful cases; and its influence is still felt. From Ohio, from Indiana, from Illinois, from Michigan, Missouri, North Carolina, and Mississippi, we have patients, arrived since the 1st of November, who attribute to that paper, or to

newspaper notices of it, either their first joyful knowledge of the rescue at hand for them, or confirmation in a previously conceived but wavering inclination to avail themselves of the way of escape, and the protection we offered them.

"This is the living, saving fruit of that small seed of hope and love so timidly and humbly planted more than seventy-five years ago, by the celebrated Dr. Rush, of Philadelphia, who was the first man to openly advocate the founding of Inebriate Asylums; and more recently by the distinguished and lamented Dr. Woodward, of the Insane Asylum at Worcester, Massachusetts.

"The glowing words of hope uttered by these gentlemen in their time have nestled in the hearts of nobly thinking men, until they have come to a full fruition in the establishing of this Institution, the noblest monument of the civilization of the age.

"Of the two hundred and twenty-eight patients discharged from the Asylum since the 1st of May, 1867, one hundred and thirteen appear to have permanently reformed, after a single probationary trial. Satisfactory reports of the condition of these have reached the Superintendent through the medium of correspondence addressed to him, either by the men themselves or by their friends.

"A large number of such letters have accumulated on our files, and they are in almost every instance most useful as well as interesting—not only by their emphatic, even eloquent, expressions of gratitude and happiness, but by their timely and impressive words of warning addressed to comrades and fellow-prodigals who still remained with us. By reference to the extracts from a few of these letters, which will be found in the Appendix to this report (and which are presented as fair samples of the whole), it will be seen how positive and safe has been the reform, and what a moral and social resurrection has come of it.

"Eleven have fallen after a first trial, and four after a second; but, returning and clinging to the Asylum, have likewise triumphed in the end.

"Of sixty-eight we have no certain tidings, nor any means of ascertaining their present condition; but as many of these were in a highly favorable state of physical and moral health when they left, I think we may confidently claim at least one third of the number (say twenty-three) as reformed.

"Twenty-five may be set down as fail-

ures and incorrigible. We have no word of cheering assurance from themselves or their friends. Only four have died; and three have been discharged insane."

HYPOTERMIC INJECTIONS OF MERCURY IN CONSTITUTIONAL SYPHILIS.—The question recently brought before the Imperial Society of Surgery as to the propriety of immediate amputation in comminuted fractures of the lower third of the leg, because of the frequent communication of the fracture with the tibio-tarsal articulation, or the exposure of the medullary canal, has, like many others, come to a close without the least result. But another subject, and one which will doubtless be lively discussed—that of treating constitutional syphilis by hypodermic injections of mercury—is to commence to-morrow. This will give to some of the members of the Society—M. Després, of the Lourcine Hospital, for instance, the bitter opponent of mercurial treatment in syphilis—again the opportunity to be heard on the subject. M. Després, though young and not a favorite, is by no means sparing in his arguments.

M. Liégeois has adopted this mode of treatment for syphilis at the Midi Hospital, and he has thus treated since January 15th, 1868, up to December 1st, 1868, 193 patients affected with syphilis. (The worst cases of secondary syphilis were chosen.) Of these 127 were cured, and 66 ameliorated. Of the 127 cured there were 6 relapses. The preparation used is corrosive sublimate, the dose per day 4 milligrammes, of which half is injected in the morning, half in the evening, making each injection 2 milligrammes only. The part chosen for the injections is the back of the body. The average number of injections employed was 72—36 days of treatment. No baths, no cauterization, in fact no other treatment was resorted to.

These are certainly results which deserve attention. I have myself witnessed several times the injections practised, and I may state that the patients complained of but little pain. No abscesses or sloughs are produced—two cases excepted, in which the canula had not reached the subcutaneous cellular tissue—no salivation, no diarrhoea or digestive troubles, such as have been observed by Berkeley Hill, Lewin, (a) Bardeleben, Sigmund, Bamberger, &c., who have used larger doses of mercury.

Another, and very unlooked-for, result from these injections is the increase in weight of the patients while under treat-

ment. The reverse is true when pills of (green) protiodide of mercury are administered. These same injections practised upon men in health cause a still larger gain in weight. Equal results are obtained in animals. M. Liégeois showed me two rabbits this morning which had been treated by injections of one milligramme daily for six weeks, causing an increase of nearly two kilogrammes in each. The urine of the patients under treatment, carefully analyzed, was found notably augmented in all its proportions, urea excepted. The two great acts of the organism, assimilation and disassimilation, are therefore increased, and M. Liégeois concludes mercury in small doses is a tonic. The announcement is startling; let others verify the fact.—*Foreign Correspondent of Medical Times and Gazette.*

At the last meeting of the International Commission for the Care of the Wounded on the Field of Battle, the most interesting manœuvres of the Prussian army were executed. The field was exactly counterfeited. Wounded and dead were there in abundance (apparently), and the whole system was in action—surgery, hospital corps and ambulances. The wounded were brought in, the ambulances were equipped as in time of war, and the surgeons directed their attention to them and the patients so as to put to as effective proof as possible the efficiency of the sanitary arrangements. Each patient was cared for exactly as on the field of battle, and, it is possible, as one of the staff remarked, were noisier and more occupied in this affair than on the field of Koniggratz.

The *Gazette Médicale de Paris*, alluding to these movements, says:—"It is unnecessary to remark upon the value of such manœuvres, which exercise perfectly the medical service of the army, so that all shall be provided and prepared for the day of war. The Prussians, it is evident, attach extreme importance to all that concerns the care of the wounded; they have studied with care and have adopted all the improvements which have been introduced into the ambulance system; and in the last campaign the perfect organization of the medical service was of enormous benefit to the army."—*Dublin Med. Press & Circular.*

PROF. SYME, of Edinburgh, who was seized with paralysis of the left side on the 6th of April, is now convalescent.

Medical Miscellany.

We quote the following from the surgical items of the *Cin. Lancet & Observer*. H. H. A. B.

SPONGE TENTS. By J. B. HOUGH, M.D., Ridgeville, Ohio.—Knowing the fact that absolute or strong alcohol will quickly set the fibres of common sponge, after having been moulded or compressed into any given size or shape, I was led to the following quick and easy method of preparing sponge tents, tampons, &c. :—

The sponge is first thoroughly moistened with water and pressed as dry as the strength of the hand will permit: then having formed it into the desired shape and size by the hand, or by pressing into a quill or any other tube or mould, it is immersed into the alcohol. If the spirit is sufficiently strong (90 to 100 per ct.) the sponge is immediately set into the given shape, which it retains perfectly after the pressure or mould is removed. It is then hard, firm and inflexible, and may be trimmed to a sharp point or any other desired shape.

To restore it to its former size and shape it is only necessary to moisten it with a few drops of water. The alcohol sets the sponge perfectly, whether the amount of compression be much or little, so that the degree of dilatation, attainable by the use of tents thus prepared, will of course depend upon the size after moulding and the degree of pressure used. As this process of preparation works perfectly and *without delay*, its advantages are obvious.

It is no longer a secret of the chemist's laboratory that clear golden syrups can be made from starch and sulphuric acid; that delicious wines and brandies can be made from beet-root; that a barrel of peanuts can be transformed into excellent coffee; that lard can absorb an enormous quantity of water in certain conditions; that in fact there seems no limit to the adulterations that an intelligent and dishonest chemist can practise upon his fellow-men. All these marvels of chemical science have in these latter days become degraded into mere tricks of trade, and their chief beauty is in their capacity to enable unscrupulous dealers to lighten the pockets and destroy the stomachs of the confiding and consuming public. Concerning the article of champagne, a writer in the *Portland (Maine) Star* tells us that it is made from a thousand different substances—even from refined petroleum.—*Cincinnati Journal of Commerce in the Philadelphia University Journal*.

Is an oration entitled Discoveries in Science by the Medical Philosopher, before the Med. Society of London, March 8, 1869, by Sir G. Duncan Gibb, Bart., of Falkland, occurs the following passage:

By persistently investigating for many years the Pathology of Saccharine Assimilation, I was enabled to make the discovery that the urine in whooping cough is almost invariably saccharine, from causes that we can now understand. Also, that sometimes the sugar of the milk within the female breast undergoes fermentation and gives rise to the formation of animalcules *before the fluid is withdrawn from the gland*, also beautifully explained. Likewise that the fluid of some dropsies, ascites for example, is found to contain sugar. This last discovery was made some years prior to

that of Frerichs, and was published by me as far back as 1846 in my Inaugural Dissertation on Morbid States of the Urine. By analyzing the tears shed by a lady afflicted with diabetes, not only was sugar found in them as was expected, but in the course of my experiments the discovery was made for the first time of the characteristic crystal of diabetic sugar, which had been figured in the *Archives of Medicine*, Beale's works on the Urine, the *Path. Transactions*, and other publications.

NATURAL WINES.—All natural wines, if any improvement is to be effected by age, must throw down a deposit, and thereby they become *sweeter in bottle by the elimination of their tannin, tartrates, &c.* From red wine the deposit contains tannin, which, uniting with the albuminous matter contained in the wine, forms a crust, that year by year becomes less and less, until at length it becomes so thin that it acquires the name of "beeswing." The deposit also takes the form of crystals, which will both adhere to the cork and fall to the bottom of the bottle like powdered glass. All natural wines that have been any length of time in bottle should therefore be decanted with care.—*Medical Press and Circular*.

MEDICAL DIARY OF THE WEEK.

MONDAY, 9, A.M., Massachusetts General Hospital, Med. Clinic. 9, A.M., City Hospital, Ophthalmic Clinic.

TUESDAY, 9, A.M., City Hospital, Medical Clinic, 10, A.M., Surgical Lecture. 9 to 11, A.M., Boston Dispensary. 9-11, A.M., Massachusetts Eye and Ear Infirmary.

WEDNESDAY, 10, A.M., Massachusetts General Hospital, Surgical Visit. 11 A.M., OPERATIONS.

THURSDAY, 9 A.M., Massachusetts General Hospital, Medical Clinic. 10, A.M., Surgical Lecture.

FRIDAY, 9, A.M., City Hospital, Ophthalmic Clinic; 10, A.M., Surgical Visit; 11, A.M., OPERATIONS. 9 to 11, A.M., Boston Dispensary.

SATURDAY, 10, A.M., Massachusetts General Hospital Surgical Visit; 11, A.M., OPERATIONS.

TO CORRESPONDENTS.—The following communication has been received:—Records of Norfolk District Medical Society.

CORRECTION.—In the article on Bromide of Potassium in Tetanus, page 452, second paragraph, for "death resulting," read death occurring.

PAMPHLETS RECEIVED.—Treatment of Lachrymal Affections. By Prof. Arlt, Professor of Ophthalmology at the University of Vienna. Translated, with permission of the Author, by John F. Weightman, M.D., Philadelphia.—On the Detection of Red and White Corporcles in Blood-stains. By Joseph G. Richardson, M.D., Microscopist to the Pennsylvania Hospital.—Earth-closets: How to make them and how to use them. By Geo. E. Waring, Jr., New York.

DEATHS IN BOSTON for the week ending July 17, 99. Males, 56—Females, 43.—Accident, 8.—anemia, 1.—apoplexy, 2.—inflammation of the bowels, 3.—congestion of the brain, 4.—disease of the brain, 4.—inflammation of the brain, 1.—canker, 1.—cholera infantum, 8.—consumption, 15.—convulsions, 1.—croup, 1.—diabetes, 1.—diarrhea, 3.—dropsy of the brain, 3.—drowned, 1.—dyspepsia, 1.—epilepsy, 1.—erysipelas, 1.—scarlet fever, 5.—typhoid fever, 1.—gastritis, 1.—disease of the heart, 5.—homicide, 1.—infantile disease, 1.—intemperance, 1.—intussusception, 1.—jaundice, 1.—congestion of the lungs, 2.—inflammation of the lungs, 1.—marasmus, 4.—old age, 1.—peritonitis, 1.—premature birth, 7.—pyæmia, 1.—suicide, 1.—teething, 1.—unknown, 1.—whooping cough, 2. Under 5 years of age, 50.—between 5 and 20 years, 7.—between 20 and 40 years, 20.—between 40 and 60 years, 8.—above 60 years, 11. Born in the United States, 72.—Ireland, 19.—other places, 8.